



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,277	03/23/2006	Yoshio Yamazaki	JFE-06-1018	9391

35811 7590 01/06/2009
IP GROUP OF DLA PIPER US LLP
ONE LIBERTY PLACE
1650 MARKET ST, SUITE 4900
PHILADELPHIA, PA 19103

EXAMINER

KESSLER, CHRISTOPHER S

ART UNIT	PAPER NUMBER
----------	--------------

1793

MAIL DATE	DELIVERY MODE
-----------	---------------

01/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,277	Applicant(s) YAMAZAKI ET AL.	
	Examiner CHRISTOPHER KESSLER	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-9 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 7-9 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Responsive to the amendment filed 26 September 2008, claims 7, 9 and 15 are amended and claim 17 is added. Claims 7-9 and 15-17 are currently under examination.

Status of Previous Rejections

2. Responsive to the amendment filed 26 September 2008, new grounds of rejection are presented.

Claim Objections

3. Claims 7-9 and 15-17 are objected to because of the following informalities: the equations 1-4 in the independent claims have been altered, apparently by typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1793

5. Claims 7-9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Document US 2005/0217768 A1 issued to Asahi et al. (hereinafter "Asahi").

Regarding claim 7, Asahi teaches the invention substantially as claimed. Asahi teaches an expandable oil country tubular good (see abstract). Asahi teaches that the tubular good comprises by wt %:

C: 0.03 to 0.3%,

Si: 0.8% or less,

Mn: 0.3 to 2.5%,

P: 0.03% or less,

S: 0.01% or less,

Nb: 0.01 to 0.3%,

Ti: 0.005 to 0.03%,

Al: 0.1% or less, and

N: 0.001 to 0.01%

and comprising a balance of Fe and unavoidable impurities (see claim 1).

The compositional ranges of the steel of Asahi overlap the instantly claimed compositional ranges, establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have selected a composition within the range as claimed, because Asahi teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Art Unit: 1793

Asahi does not teach wherein the composition satisfies the equations (1) and (2) as claimed. However, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. *In re Austin, et al.*, 149 USPQ 685, 688. In the instant case, Asahi teaches a steel with an overlapping compositional range, and it would have been obvious to one of ordinary skill in the art at time of invention to have made a composition satisfying the equations (1) and (2), because Asahi teaches the same utility over the entire range of composition.

Asahi does not teach a specific example of a seamless tubular good using the steel composition. However, Asahi teaches that the steel pipe may be made as a welded steel pipe, or as a seamless steel pipe (see [0144], for example). It would have been obvious to one of ordinary skill in the art at time of invention to have made a seamless steel pipe with the composition of Asahi, because Asahi teaches that the composition is suitable to make seamless steel pipes and is excellent in strength and toughness (see [0144]).

Regarding the microstructural limitations of the steel, Asahi does not teach that the article contains ferrite at 5-70 vol % and the balance substantially a low-temperature transforming phase.

Art Unit: 1793

Asahi teaches that the steel is heat treated such that a low-temperature transforming phase is developed in order to alleviate the Bauschinger effect (see pp. 3-4). Asahi further teaches that the preferred microstructure comprises pure bainite, pure bainitic ferrite, or a mixture of bainitic ferrite and bainite (see [0144]-[0148]). Thus, the compositional range of Asahi is 0-100% of bainitic ferrite and the balance substantially composed of bainite. The microstructural range of Asahi overlaps the claimed range, establishing a prima facie case of obviousness for that range. It would have been obvious to one of ordinary skill in the art at time of invention to have selected amounts of ferrite and bainite in the range as claimed, because Asahi teaches the same utility over an overlapping range.

Regarding claim 8, Asahi further teaches wherein the composition comprises Ti (see claim 1).

Regarding claim 9, Asahi does not teach wherein the composition satisfies the equations (3) and (4) as claimed. However, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. *In re Austin, et al.*, 149 USPQ 685, 688. In the instant case, Asahi teaches a steel with an overlapping compositional range, and it would have been obvious to one of ordinary skill in the art at time of invention to have made a

Art Unit: 1793

composition satisfying the equations (3) and (4), because Asahi teaches the same utility over the entire range of composition.

Regarding claim 17, Asahi is applied to the claim as stated above.

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahi as applied to the claims above, and further in view of US Patent 5,873,960 issued to Kondo et al. (hereinafter "Kondo").

Regarding claim 15, Asahi does not teach a method including forming the pipe by a seamless steel pipe forming process which is performed at a rolling finish temperature of 800° C or more.

Kondo teaches a method for forming a seamless steel pipe (see abstract). Kondo teaches wherein the pipe is rolled pierced and rolled to form a seamless steel pipe (see cols. 8-9). Kondo teaches heating of the material (see cols. 8-9). Kondo teaches wherein the rolling finish temperature is between 800° and 1050° C, said range overlapping the range as claimed and establishing a prima facie case of obviousness. It would have been obvious to have selected a temperature over 800° C because Kondo teaches the same utility for the entire range of 800° to 1050° C. Applicant is further directed to MPEP 2144.05. Kondo further teaches wherein a normalizing step may be included as desired (see cols. 8-10).

It would have been obvious to one of ordinary skill in the art at time of invention to have made a seamless steel pipe with the composition of Asahi, because Asahi

Art Unit: 1793

teaches that the composition is suitable to make seamless steel pipes and is excellent in strength and toughness (see [0144]), and further to have used the process of Kondo for making the seamless steel pipe because Kondo teaches that the method has reduced costs and good productivity (see Disclosure of the Invention).

Regarding claim 16, Asahi teaches wherein the pipe is applied with a normalizing treatment as a final heat treatment (see [142], Example 1). Asahi teaches that this treatment may include holding at temperature of 960° C for 60 seconds, then “allowing to cool” (see Example 1). Thus the normalization of Asahi meets the limitation of air cooling and holding the pipe in a region from Ac_1 to Ac_3 for about five minutes or more, because the steel pipe would have taken a significant amount of time to cool from 960° C to Ac_1 .

7. Claims 7-9 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,290,789 issued to Toyooka et al. (hereinafter “Toyooka”).

Regarding claim 9, Toyooka teaches the invention substantially as claimed. Toyooka teaches a steel pipe having good strength and ductility (see abstract). Toyooka teaches that the pipe comprises 0.06-0.30% C, 0.01-1.5% Si, 0.01-2.0% Mn and 0.001-0.10% Al (see col. 5). Toyooka further teaches that the composition may include Cr up to 2% or Mo up to 1% (see col. 7). Toyooka further teaches that the impurities are limited to 0.01% of N, 0.006% of O, 0.025% of P and 0.02% of S (see cols. 8-9). The compositional ranges of the steel of Toyooka overlap the instantly claimed compositional ranges, establishing a prima facie case of obviousness. It would

Art Unit: 1793

have been obvious to one of ordinary skill in the art at time of invention to have selected a composition within the range as claimed, because Toyooka teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Toyooka does not teach wherein the composition satisfies the equations (1) and (2) as claimed. However, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. *In re Austin, et al.*, 149 USPQ 685, 688. In the instant case, Toyooka teaches a steel with an overlapping compositional range, and it would have been obvious to one of ordinary skill in the art at time of invention to have made a composition satisfying the equations (1) and (2), because Toyooka teaches the same utility over the entire range of composition.

Toyooka further teaches that the steel pipe may be a seamless steel pipe as is known in the art (see col. 13). The terms “expandable” and “oil country” are statements of intended use for the pipe claimed. The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Corning Glass Works*, 868 F.2d at 1257, 9

Art Unit: 1793

USPQ2d at 1966. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999).

Toyooka further teaches that the microstructure of the pipe may comprise fine grains of ferrite along with a precipitated second phase (see col. 9). Toyooka teaches that the second phase may comprise martensite or bainite (see col. 9), meeting the limitation of a low temperature transforming phase. Toyooka teaches that the area of the second phase of the microstructure accounts for more than 30% of the total area, preferably between 30 and 60% of the total area (see col. 9). The amount of low temperature transforming phase of the steel of Toyooka overlap the instantly claimed microstructural amount, establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have selected an amount of second phase within the range as claimed, because Toyooka teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Regarding claim 8, Toyooka teaches that the pipe comprises Cu up to 1% or Ni up to 2% (see col. 7), said ranges overlapping the claimed compositional ranges, establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have selected a composition within the

Art Unit: 1793

range as claimed, because Toyooka teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Regarding claim 9, Toyooka is applied to the claim as stated above. Toyooka does not teach wherein the composition satisfies the equations (3) and (4) as claimed. However, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. *In re Austin, et al.*, 149 USPQ 685, 688. In the instant case, Toyooka teaches a steel with an overlapping compositional range, and it would have been obvious to one of ordinary skill in the art at time of invention to have made a composition satisfying the equations (3) and (4), because Toyooka teaches the same utility over the entire range of composition.

Regarding claim 15, Toyooka is applied to the claim as stated above. Toyooka teaches the steel pipe is heated for hot rolling (see col. 10). Toyooka teaches that the rolling temperature is preferably in a range from 400-750° C (see col. 10). The range with a maximum temperature of 750° C overlaps the instantly claimed range of “about 800°C or more.” It would have been obvious to one of ordinary skill in the art at time of invention to have selected a hot rolling temperature within the range as claimed, because Toyooka teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05. Toyooka further teaches examples of steel pipe

Art Unit: 1793

produced with rolling finish temperature above 800°C (see Tables 4, 6 and 8, for example).

Regarding claim 16, Toyooka teaches that the pipe is cooled after hot rolling (see col. 11). Toyooka teaches that the cooling may be air cooling, and that the cooling rate may be 1° C per second or more (see col. 11). Thus the cooling process of Toyooka overlaps the claimed step of holding in the region between Ac_1 and Ac_3 for about five minutes or more and then cooling.

Regarding claim 17, Toyooka teaches that the pipe comprises Cu up to 1% or Ni up to 2% (see col. 7), said ranges overlapping the claimed compositional ranges, establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have selected a composition within the range as claimed, because Toyooka teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Response to Arguments

8. Applicant's arguments filed 26 September 2008 have been fully considered but they are not persuasive.

Applicant argues that Asahi teaches away from the claimed invention, citing paragraph [0118] of Asahi. This argument is not persuasive. Asahi clearly teaches that the seamless steel pipe in the as-rolled state has inferior properties. However, Asahi is only describing seamless steel pipe in the as-rolled state. Asahi further teaches that the

Art Unit: 1793

steel pipe is austenitized and quenched in order to create a low-temperature transforming phase and thereby improve the mechanical properties (see pp. 4-5). Asahi later teaches in [0144] that embodiments 14 and 16 of the invention are suitable for use with seamless steel pipe (see [0144] and [0111]-[0113]).

Applicant argues that Asahi does not teach wherein the heat treated pipe contains ferrite in the amount as claimed because Asahi recognizes a difference between bainitic ferrite (BF) and Ferrite (F), as seen in Table 2. Thus applicant is arguing that “bainitic ferrite” does not read on ferrite as claimed.

This is not persuasive because the examiner disagrees. Bainitic (aka, acicular) ferrite is one possible morphology of ferrite. Applicant is further directed to MPEP 2111, stating that claims must be given their broadest reasonable interpretation, and that limitations from the specification are not imported into the claims. Thus the preferred microstructure taught by Asahi comprising a mixture of bainitic ferrite and bainite (see [0144], [0148] or Table 2) meets the limitations of the claims.

Applicant argues that the compositional range taught by Kondo does not meet the limitations of the instant claims. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Asahi does not teach normalizing above A_{c3} . The examiner has restated the rejection to more clearly describe what is taught by Asahi.

Art Unit: 1793

The normalizing process of heating to 960 C then allowing to cool taught by Asahi would have resulted in the steel being held in the temperature region between Ac_1 and Ac_3 for well over 5 minutes.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER KESSLER whose telephone number is (571)272-6510. The examiner can normally be reached on Mon-Fri, 9-5.

Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

csk